## XXI.

# THE CANADIAN QUARANTINE SYSTEM.

By FREDERICK MONTIZAMBERT, M. D. Ed.; F. R. C. S. E.; D. C. L.,

Grosse Isle, P. O.

### THE QUARANTINE STATIONS.

- 1. The quarantine stations of Canada at the Atlantic maritime ports are,—
- (a) Grosse Isle, in the River St. Lawrence, with Rimouski, the Louise Embankment, and the Grand Trunk wharf at Lévis, as sub-stations, province of Quebec;
- (b) Halifax, the harbor and Lawlor's Island, in the province of Nova Scotia:
- (c) St. John, the harbor and Partridge Island, in the province of New Brunswick;
  - (d) Sydney, Cape Breton, in the province of Nova Scotia;
  - (e) Pictou, in the province of Nova Scotia;
  - (f) Hawkesbury, in the province of Nova Scotia;
  - (g) Chatham, in the province of New Brunswick;
  - (h) Charlottetown, in the province of Prince Edward Island.
  - 2. On the Pacific coast:
- (a) Williams Head, including Albert Head, in the Strait of Fuca, province of British Columbia, and also including as a sub-station the port of Victoria; and
- 3. Every other port, on both oceans, at each of which the collector of customs is the quarantine officer, such port being designated an unorganized quarantine station;
- 4. And every inland customs port on the Canadian frontier, between the Pacific and Atlantic oceans, each such port being designated an unorganized inland quarantine station.

The following is a brief sketch and history of the various quarantine stations of the Dominion:

## GROSSE ISLE, QUEBEC.

The quarantine station at Grosse Isle, the most important on the Atlantic coast of Canada, consists of an island in the St. Lawrence about thirty-one miles below Quebec. It was selected for quarantine purposes at the time of the first advent of cholera to this continent, in 1832. It lies in the stream about four miles and a half from the south shore of the river, about six miles from the north shore, and two miles or more from the "fairway" or channel along which incoming and outgoing vessels

pass. No one is allowed to reside on the island except the employés and their families. A written permit from the officer in charge is required before any one can either land on the island, depart from it, or, when infectious disease is present, pass from one of its divisions to another.

Its positions and capabilities of isolation are therefore exceptionally good. The island is a well wooded one, between two and three miles long, and covers some seven hundred acres. It is divided into sick, central, and healthy divisions.

In the sick division, at the eastern extremity of the island, are the hospitals, and the quarters of the hospital staff.

There is a two-story brick hospital with one hundred beds, including some in private wards, for cabin passengers, ships' officers, etc., and a detached one-story wooden shed with four separate wards, and about seventy beds, for cholera and small-pox patients. There are also ample facilities provided for the washing, disinfection, and fumigation of bedding, clothing, etc.

In the central division are the residences of the inspecting officers and of the crew of the inspecting steamer. In this division also the churches (Protestant and Roman Catholic) and the chaplains' residences are placed.

In the healthy division, at the western extremity of the island, are the houses of detention for suspected passengers from infected vessels. These detention houses, nine in number, are grouped in twos and threes, and furnish in all accommodation for about one hundred and twenty-four saloon passengers, two hundred second cabin, and fifteen hundred steerage passengers. In this division also is a wash-house, with six furnaces and boilers; a bacteriological laboratory; a bath and closet-house with twelve baths and sixteen water-closets for men, and six baths and eight closets for women; a bakery, a forge, an oven for hot air disinfection; a fumigating room, police barracks, etc. There is also a steam disinfecting house with three iron chambers, twenty-five feet by eight feet six inches, with boilers, etc., for the disinfection and sterilization of clothing and luggage, by steam. In the same building are twelve rain or needle baths for the washing with a disinfecting solution the persons of suspects while their clothing is being sterilized in the steam chambers. Two powerful pumps supply water from the end of the pier to reservoirs on a hill with a capacity of fifty thousand gallons, from which it is piped to the various buildings. A condensing and aërating apparatus supplies pure drinking This division is separated by more than a mile of generally wooded land from the sick division and the hospitals.

There is telephonic communication between the different divisions of the station, and telegraphic communication with the mainland. Incoming vessels requiring inspection are met in the offing, and inspected immediately upon their arrival, whether by day or night. The position of the station is marked by night to vessels arriving, and the working of the night service is facilitated by the presence of an illuminated gas buoy about two miles out from and opposite to the station.

For the inspection service two steamers are required, one being the regular inspecting steamer, on duty with steam up day and night, from early April to late November, always in readiness to meet incoming vessels in the offing. She is provided with an hospital cabin, with beds, etc., for the landing of the sick, and with disinfecting appliances sufficient to disinfect a ship's hospital cabin. When infectious disease is found to have occurred on any incoming vessel, and to have been satisfactorily isolated, the sick, with their attendants, and all the contents of the ships' hospital are at once transferred to the quarantine steamer. The emptied hospital of the ship is then drenched with mercuric chloride solution, and treated with superheated steam. The vessel, meanwhile, proceeds up the river with the quarantine steamer alongside, so that even in these cases the delay is reduced to a minimum.

A second steamer is required, to use as a supply boat and mail boat; as a means of taking the convalescents up to Quebec when discharged from quarantine; to land healthy but suspected passengers for quarantine observation at the detention division, to act as a reserve inspecting steamer whenever required, and for the disinfection of vessels when the infection is not confined to an isolated hospital cabin as above. steamer carries a sulphur dioxide blast apparatus of the most modern type and a tank, nineteen hundred gallons capacity, with double hose, etc., for drenching the vessel with mercuric chloride solution. When the graver quarantinable diseases are present, or isolation has not been satisfactory, the steamer is tied up to the vessel for the drenching of her free surfaces and the fumigation of holds, forecastles, and other apartments too large for disinfection by steam. As these processes occupy many hours of continuous work it is necessary to have the appliances for them on a separate steamer so as to leave the regular inspection boat free for the constant meeting of incoming vessels.

### HALIFAX, N. S.

Halifax has been fitted with quarantine appliances, hospital and detention buildings to make it a station of the first class. The station is situated on Lawlor's Island, near the entrance to the harbor, and five miles distant from the city. It is about one mile in length, a quarter of a mile wide, and covers nearly two hundred acres. It is divided into three sections. On it are two hospitals, steward's residence, outbuildings, etc. From its position behind McNab's Island, it is scarcely visible when entering the harbor.

A system of quarantine and a health officer for the port of Halifax existed for a period of some forty years prior to confederation. In 1866 a number of cholera patients were landed on McNab's Island, where several hundred died, the health officer attending them falling also a victim to the disease. No regular quarantine station then existed, but the provincial government, under the stress of this visitation, at once

arranged for the purchase of Lawlor's Island, which, however, was not completed until confederation had taken place, and Lawlor's Island, Halifax, was established as a quarantine station by order in council, 25th of May, 1868.

Owing to Halifax being the winter port of the Dominion this is a very important station. The buildings on it, though old, have been repaired, and new detention buildings are being erected. The old wharf, or landing place, is insufficient for present service, and a new wharf on or near which to place sulphur blast and steam disinfector, is about to be erected.

# ST. JOHN, N. B.

This station is situated on Partridge Island, some three miles below the city of St. John. The buildings on this have been placed in repair; a steam disinfector, especially procured from England, has been placed in position, and a dioxide sulphur blast and appliances for the mercuric drench are also being supplied, rendering this quarantine efficient for service.

Partridge Island was selected for a quarantine station by the provincial government in 1809, when it was granted under charter to the city and corporation of St. John, with certain provisions to be carried out by the city, but it was not until 1830 that it was made use of. A "pesthouse" on the Carleton side of St. John river had until that date been the point to which infectious diseases had been transferred. In 1883–'84 a marine hospital was built and efforts made to alleviate the condition of the sick, left from time to time, on the island. In 1847, when ship fever developed itself in great malignity, Partridge Island was divided into a healthy and an infected district. Records show that 3,000 persons were landed there during the year, out of which number 1,500 died from fever. In 1868, after confederation, an order in council was passed establishing it as a quarantine station under Dominion regulations.

### SYDNEY, N. S.

This station occupies about two acres of land at Point Edward, situated about midway between North Sydney and Sydney proper. This station has no approach by land, right of way not yet having been procured to it through adjoining property.

It, however, is accessible at all times by water, unless during a few days in the spring when floating ice accumulates off the quarantine wharf. The buildings at this station have been repaired, and are in fair condition.

Sydney was established as a quarantine station by order in council, October 30, 1880.

#### CHARLOTTETOWN, P. E. I.

This station is distant about two miles from Charlottetown, and is located at the entrance of the harbor. The property covers nine acres

in extent, and the building thereon is used both as a hospital and as a caretaker's dwelling.

Charlottetown was established as a quarantine station by order in council, July, 1875.

### PICTOU, N. S.

This station is situated about five miles below the town of Pictou, and covers thirty-five acres of land. The buildings have recently been repaired, and are now in proper condition. There is an hospital and steward's house, built of wood, and a small pesthouse, built of stone.

Pictou was established as a quarantine station, by order in council, 18th October, 1873.

## CHATHAM, MIRAMICHI, N. B.

This station is on Middle Island, in Miramichi river, distant from the town of Chatham between one and two miles. The buildings consist of two hospitals and a caretaker's residence, and are built of wood, on stone foundations, and are in good condition.

Chatham was established as a quarantine station, by order in council, 8th October, 1886.

### PORT HAWKESBURY, N. B.

At this station inspection of vessels, when needed, is carried on by the inspecting physician, appointed by the government for that purpose.

Port Hawkesbury was established as a quarantine station, by order in council, 2d August, 1886.

#### BRITISH COLUMBIA.

Williams Head is to be joined to Albert Head, for a general quarantine station for British Columbia, and to be fitted up with the disinfecting appliances of the first class; together with deep-water wharf and the necessary buildings.

## UNORGANIZED QUARANTINE STATIONS.

At every port at which there is no regular quarantine station the collector of customs at each port is the quarantine officer for the purposes of the regulations; and every such port is designated an unorganized quarantine station.

Every vessel arriving at an unorganized station from an infected port, or on board of which any death from infectious disease or outbreak of infectious disease has occurred during the voyage, remains outside until it receives permission to enter from the quarantine officer.

All the regulations applicable to regularly organized quarantine stations also apply to every unorganized quarantine station in so far as circumstances will admit, and particularly the provisions relating to inspection,

anchoring or mooring, disinfecting, customs clearance, putting back to seabefore breaking bulk, questions to ship's surgeon or officers, and penalties.

### UNORGANIZED INLAND QUARANTINE STATIONS.

Every inland port on the frontier of Canada between the Atlantic and Pacific oceans, at which there is a collector or a sub-collector of customs, for the purpose of the regulations, is constituted an unorganized inland quarantine station.

Every collector or sub-collector of customs at every such inland frontier port is the quarantine officer.

Any collector or sub-collector of customs in his quality of quarantine officer at any inland unorganized quarantine station in Canada, if he is informed of or has reason to suspect the presence of any of the graver quarantinable diseases recited in section 20 of these regulations, shall, in time of cholera or other epidemic disease, order a medical inspection to be made of the car, carriage, vehicle, boat, or thing bringing such disease;

- (a) And such quarantine officer is empowered to detain such car, carriage, vehicle, boat, or thing, until such medical inspection shall have been made to his satisfaction;
- (b) A medical man making such inspection by order of the quarantine officer, while engaged in such service, is the quarantine medical officer.

The customs collector or sub-collector, in his quality of quarantine officer, on the report of the medical quarantine officer, in a time of epidemic disease, in the event of any of the graver quarantinable diseases being found, causes the detention of the car, carriage, vehicle, boat, or thing, bringing any person ill with such infectious disease until the requirements of the regulations are in his judgment satisfied;

- (c) Any sick person is not allowed to enter Canada until in the opinion of the medical quarantine officer he or she can safely do so;
- (d) Any car, carriage, vehicle, boat, or thing, bringing such sick person to the frontier has the option of returning as an alternative to quarantine detention; or
- (e) The customs collector or sub-collector in his quality of quarantine officer in his discretion, on the report of the quarantine medical officer, causes the removal and isolation of such sick person in any car or boat, set apart for that purpose, or in any suitable building sufficiently separated from other buildings to prevent contact.

And such quarantine officer may cause the disinfection of the car, carriage, vehicle, boat, or thing bringing such sick persons, by means of sulphurous fumes, or any other mode of disinfection prescribed in these regulations adapted to the circumstances of the particular case.

In the event of cholera or other epidemic disease prevailing in any part of the United States, through which a railway crossing the frontier of Canada runs, the governor in council may, on an order published in the Canada Gazette, or in an extra of the Canada Gazette, made on a report

of the minister of agriculture, and where there may not happen to be at that point of the frontier any adequate quarantine arrangements and apparatus to cope with an inroad of such epidemic disease, direct the complete cessation of passenger traffic at such point; or such restriction thereof, as may in the circumstances be deemed advisable.

### GENERAL PROVISIONS.

Every quarantine officer at a quarantine station in Canada, and every customs collector in his quality of quarantine officer, is, for the purpose of the regulations, a justice of the peace in virtue of the provisions of section 5 of the act respecting quarantine, chapter sixty-eight, Revised Statutes.

Within the meaning of the regulations, an infected port or country is a port or country where Asiatic cholera, or other epidemic disease, has been communicated to one or more persons through the medium of an infected person, personal effects, or otherwise. A port or country is not considered infected when a single case or a small number of cases has been imported and the disease has not been communicated from such cases.

Every vessel arriving from any port outside of Canada (liable to quarantine) is inspected by a duly appointed quarantine officer, and is not allowed to make customs entry at any port in Canada until it has received a clean bill of health.

No person is allowed to land from any vessel until such person is declared by a quarantine officer free from infectious disease, and until in the judgment of such officer, such landing can be effected without danger to the public health.

The graver quarantinable diseases are, Asiatic cholera, small-pox, typhus fever, yellow-fever, and the plague; the minor, scarlet-fever, enteric fever (typhoid), diphtheria, measles, and chicken-pox.

- (a) In addition to the above recital, it is the duty of every quarantine officer to satisfy himself as to the presence or absence of any other contagious or infectious disease;
- (b) And with respect to leprosy, it is the duty of every quarantine officer, particularly on the Pacific coast, to satisfy himself as to the fact of the presence or absence of such disease among the passengers, and in the event of any case of such disease being found, the person affected is not allowed to land, but must be taken back by the vessel to the place whence he or she came.

Every passenger is required to furnish evidence to the satisfaction of a quarantine officer of having been vaccinated, or having had the small-pox.

The production of a certificate by a ship's surgeon, called a "protection card," and his testimony under oath verifying the truth of such certificate, may be taken by a quarantine officer as evidence of such vaccination and protection. Such quarantine officer shall, however, from time to time, make personal examination of holders of such certificates to satisfy himself of the manner in which they have been issued.

Any person not having shown satisfactory evidence of having been vac-

cinated, or of having had the small-pox, is vaccinated by a quarantine officer; or in the event of refusal, is landed at the quarantine station, subject to detention for observation, and the expense of maintenance of such person during such detention is charged against the vessel.

(a) A vessel arriving at any quarantine station in Canada will be less liable to detention if the vaccination of all steerage passengers not showing proof of vaccination within seven years is insisted on before embarkation. The ship's surgeon should satisfy himself of such fact in the case of every passenger early during the voyage, or at the time of embarkation if possible, in order to be able to answer the questions put to him by the quarantine officer.

In the event of small-pox having occurred on any vessel, every person on board not showing satisfactory evidence of having been vaccinated within seven previous years, or of having had the small-pox within that period, is vaccinated by or under the supervision of the quarantine officer; or in the event of refusal, is landed at the quarantine station, subject to detention for observation, and the expense of maintenance of such person or persons during such detention is a charge against the vessel.

The quarantine officer examines the surgeon or any officer of any vessel, under oath, touching the state of health of such vessel and every person on board, in the form of the questions appended to this paper.

Every vessel provided with an isolated hospital for men, and another for women, on the upper-deck, ventilated from above and not by the door only, is in the case of minor quarantinable disease, if the quarantine officer is furnished with satisfactory evidence that such hospital accommodation has been promptly and intelligently made use of, allowed to proceed after the landing of the sick and the disinfection of such hospital as has been used; any vessel, however, arriving with any infectious disease, without having such special isolated and ventilated hospital accommodation, or if having it, without satisfactory evidence that it has been promptly and intelligently made use of, is liable to be detained for disinfection at a quarantine station.

In the case of a vessel carrying Her Majesty's mails and arriving by the St. Lawrence, clearance certificate is from a quarantine officer at Rimouski or Grosse Isle, and in the case of every other vessel from Grosse Isle only,—

- (a) With the exception that during a time of cholera or other epidemic, the permission to a mail steamer from an infected port or country to land passengers at Rimouski may be suspended by direction of the minister of agriculture;
- (b) And in such conditions the mails only to be landed at Rimouski, the vessel to proceed to Grosse Isle for inspection;
- (c) In the event of cholera having occurred on board of such vessel during the voyage, the outer bags containing the mail matter to be left on board the steamship for disinfection at Grosse Isle.

During a time of cholera epidemic the luggage of immigrants by every

vessel arriving by way of the St. Lawrence, not disinfected at Grosse Isle, whether from an infected or healthy port or country, by direction of the minister of agriculture, is disinfected at the Louis embankment, Quebec, with the exception that the luggage of those immigrants booked by the Grand Trunk Railway may be disinfected at the Grand Trunk wharf at Lévis.

- (a) The clearance granted by the quarantine officer is conditional on the landing of immigrants and their luggage for disinfection at the Louis embankment or Lévis.
- (b) The supervising officer of such disinfection counts the immigrants as they land, and if he finds the number tallies with that marked on the clearance of the quarantine officer, and has satisfactory evidence that all their luggage has been landed with them, he punches the clearance at the place marked for that purpose, which then becomes valid for customs entry.

This has been scrupulously carried out throughout this season. By request of the United States government, cordially acceded to by the government of Canada, officers of the United States Marine Hospital service have been stationed at Quebec and Lèvis. These officers have continuously and closely watched the processes of disinfection, and have fully endorsed them, not only verbally, but by the practical method of putting on the disinfection certifying tags of their government as soon as the Canadian ones have been affixed. For affixing the tags, wire with a lead seal is used by both services, as a safeguard against substitution or accidental loss of the tag.

Every maritime quarantine officer punches each immigrant "international passenger certificate" where such are in use, in such manner as to convey to inland health officers the result of the quarantine inspection, as provided by such card or certificate.

(a) Every maritime quarantine officer punches the schedule list of immigrants by destination, province or state (if destined for the United States) where such is in use, which is furnished by the ship's surgeon on forms supplied by the government, and forwards such lists forthwith to the secretary of the board of health in the province or state to which such immigrants are destined.

Passengers, for the purpose of the regulations, are divided into two classes, cabin and steerage. Steerage passengers are those occupying compartments other than those of first and second cabin.

Passengers during a period of epidemic disease, are notified by steamship agents to dispense as far as possible with luggage that may be injured by wetting, in case of having to undergo disinfection—such as fabrics, of which the dyes are likely to run, as the owners will be compelled to assume all risks of injury.

Vessels during a period of epidemic disease should dispense as far as possible with woollen hangings, curtains, carpets, and upholstering, substituting non-absorbing coverings.

Every vessel carrying cargo, and liable to be disinfected, should have provided a plain frame shaft allowing a clear inside space of twelve inches each way, placed in the main hatch, in a sailing vessel, and one in each hatch of a steam-ship, divided by bulkheads,—the frame work in this shaft to be set before loading and to extend from the hatchway to the bottom of the vessel. This simple arrangement would receive the fumigating pipe and avoid shifting cargo.

Rags coming from a port or country in which infectious disease prevails, are prohibited, and the names of any port or country so infected, are from time to time published in the Canada *Gazette*:

(a) Rags arriving from prohibited ports at a quarantine station are liable to be burnt or otherwise treated on the order of the minister of agriculture, based on a report of the quarantine officer.

New merchandise in general is accepted without question.

#### METHODS OF DISINFECTION.

The methods of disinfection at the quarantine stations of Canada are as follows:

- (a) Exposure to steam not less than thirty minutes, steam to be of the temperature of not less than 100° Centigrade (212° Fahrenheit) nor greater than 115° Centigrade (239° Fahrenheit);
- (b) Articles that would be destroyed by the above method to be disinfected by thoroughly wetting with a solution of mercuric chloride, of one part to one thousand, or approximately one drachm to one gallon, wine measure, applied by means of a brush, or by drenching, or by immersion;
- (c) Where sulphur dioxide is used it is to be provided by burning not less than three pounds of rolled sulphur per one thousand cubic feet of space, or if it is used in liquid form in the same proportionate strength, and the period of exposure to be not less than six hours.

The disinfection of iron vessels is as follows, as may be required:

- (a) Holds—After mechanical cleansing, the hold to be thoroughly washed with an acid solution of mercuric chloride, I to 800 (mercuric chloride I part, hydrochloric acid 2 parts, water 800 parts), applied to all surfaces by means of a hose. If danger is apprehended from the poisonous effects of the mercury deposited on the surfaces, it can be subsequently washed down with clean water;
- (b) Steerage—The same treatment is given to the steerage as to the hold, but when there is a steam-pipe provided for each compartment (for the prevention of fire), steam disinfection of the steerage is practised. The temperature in all parts of each compartment to be not less than 100° C. (212° Fahr.);
- (c) The forecastle or apartment for crew—After mechanical cleansing, the application of mercuric chloride in the manner hereinbefore prescribed, or sulphurous fumes, or steam disinfection, if facilities are provided for the same;

(d) Officers' quarters, cabin, staterooms, etc.—Each compartment to receive the same treatment, under the same conditions, as hereinbefore specified, it being borne in mind that the decorative metal work in cabins, saloons, etc., would be injured by the use of the mercuric chloride solution, and therefore, in such cases, other forms of disinfection are used as determined by the quarantine officer.

The disinfection of wooden vessels is as follows, as may be required:

- (a) Fumigation by sulphur dioxide made by burning not less than three pounds of rolled sulphur to each 1,000 cubic feet of space; or by the use of liquid sulphur dioxide in the same proportionate strength; and the period of exposure to be not less than twenty-four hours.
- (b) Washing or flushing with acid solution of mercuric chloride (1 to 800). Cabins, forecastle, and other apartments to be thoroughly washed with bichloride solution, and all clothing, bedding, curtains, etc., to be subjected to steam for thirty minutes at from 100° C. (212° Fahr.) to 115° C. (239° Fahr.)

In all classes of vessels, the bilges are first flushed with sea or river water, pumped out, and then treated with acid solution of mercuric chloride in large quantity, and allowed to remain in long contact.

No quarantine officer nor other person employed in the quarantine service of Canada, is permitted to directly or indirectly receive or take any fee or private gratuity or reward for any service rendered to any company or owner, master or crew, passenger or other person, at or detained in any quarantine, maritime or inland. Every person to whom the knowledge of any breach of these regulations may come, should forthwith report the same to the minister of agriculture.

QUESTIONS TO BE ANSWERED UNDER OATH TO QUARANTINE OFFICER BY MASTERS, SURGEONS, OR OFFICERS OF VESSELS.

Date, 189.

- 1. What is your vessel's name and your name?
- 2. From what port and at what date did your vessel sail?
- 3. What is your cargo and whence taken on board?
- 4. Are there any rags in such cargo?
- 5. Has your vessel touched at any place or places on her voyage?
- 6. Was such place or places, or any of them, to your knowledge infected with cholera, small-pox, plague, or any pestilential fever or disease?
- 7. How many persons were on board when the vessel sailed?

  Cabin passengers ; intermediate ; steerage cattlemen ; crew . Total .
- 8. State whether any person on board during the voyage has been, or is now, ill with any of the diseases above referred to, and if so, how many?
- 9. Has any person died on board during the present voyage, and if so, state all particulars?
- 10. Has each of the steerage passengers on board been vaccinated or had the small-pox?

- 11. Did the vaccination of steerage passengers take place at the time of or before embarking?
  - 12. How many have you vaccinated on your present voyage?
- 13. (Questions to be asked, in the event of small-pox having occurred during the voyage, of ship's surgeon, if such is on board.) Have you personally, during the present voyage, examined each one of the passengers and crew for proof of vaccination within seven years, or of having had the small-pox in that period?
- 14. Did you, or any of the crew, or passengers, within your knowledge, land at any place or places within Canada during the present voyage?
- 15. Is there any person on board lunatic, idiotic, deaf and dumb, blind, or infirm, and if so, is such person accompanied by relatives or guardians?
- 16. Have you an isolated hospital for men, and another for women, ventilated from above and not from the passage?
- 17. Were such hospitals, or one of them, immediately made use of on the occurrence of disease?
- 18. Are there any other facts which, in your opinion, should be communicated?

[Signature] Master. [Signature] Surgeon.

#### CERTIFICATE.

I Master, Surgeon (here state whether ship's master, or occupying another position on board), do solemnly and sincerely swear to the exactness and truth of the answers to the above questions signed by me. So Help me God.

Master, Surgeon. this day 189.

Sworn before me at this day